

Egg-ucation

Eggs are often used seasonally for decorations and games. This information is designed to *egg-ucate* you on safe handling procedures to reduce the chance of illness associated with eggs.

Because raw eggs may have *Salmonella* or other bacteria, you will need to work with eggs carefully. **Wash your hands with warm water and soap before handling eggs and at every step of egg preparation** (including cooking, dyeing, and hiding). Read our **online brochures**:

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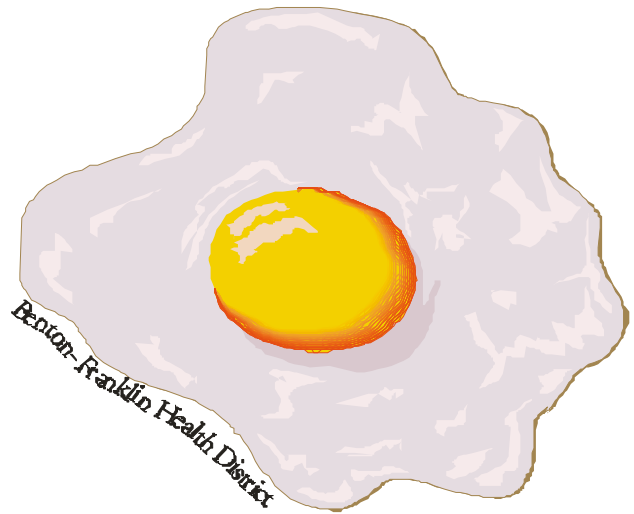
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General Egg Tips

- Purchase clean, uncracked eggs (open the carton and check) from a refrigerated case.
- Keep eggs cold and away from other foods. Refrigerate in the coldest part of the refrigerator (not in the door).
- Purchase eggs from refrigerated cases only. Pick up eggs and meat last on your shopping trip, and refrigerate them right when you get home.
- If you buy farm-fresh eggs, refrigerate them as soon as possible. Egg quality (and safety) drops at warm temperatures.
- Store raw eggs and meat below all other foods in your refrigerator. Keep the eggs and meat in a plastic or glass dish to keep the juices from dripping onto other foods. Raw eggs can be stored in the refrigerator for about 4 weeks without any loss in quality.
- Throw away dirty, cracked, or broken eggs
- Always wash your hands before and after handling all foods, especially meat and eggs.

FAEQ Frequently Asked Egg Questions

How do I hard cook eggs?

This method (from the American Egg Board) should produce eggs that have fully-cooked yolks. Eggs prepared this way also often have less of a green tinge (associated with overcooking), fewer cracks and are easier to peel.

1. Place cold eggs in a **single layer** in a saucepan.
2. Add enough **cold tap water** to come at least one inch over the eggs.
3. Cover and quickly **bring to a hard boil**.
4. **Turn off heat** and keep eggs covered.
5. Let eggs stand, **covered**, in the hot water 15 minutes for large eggs (12 minutes for medium, 18 minutes for extra large).
6. Immediately **run cold water over eggs** or plunge them in ice water until cooled.
7. **Refrigerate** in a clean, dry container.

What does Grade A mean?

- Eggs are graded based on their quality and appearance (there is no difference in nutrition or safety).
 - Grade AA eggs have thick, firm whites and high, round yolks. Their shells are clean and unbroken.
 - Grade A eggs are like Grade AA, but their whites are “reasonably” firm. Grade A are usually sold in stores.
 - Grade B eggs have thin whites and wider yolks. The shells are unbroken, but might show slight stains.

Why do some eggs float in water?

- Old eggs float in water because of a large air cell. (The air cell forms as the egg cools after being laid. As the egg ages, air enters the egg and the air cell becomes larger.) To

make sure the egg is not spoiled--break it into a clean bowl and check to make sure it doesn't have a bad odor or appearance.

Why are hard-boiled eggs hard to peel?

- Hard to peel eggs are probably fresh (with a small air cell). Use eggs that are at least a week old to make peeling easier.

How long do eggs last?

- Keep eggs refrigerated to promote quality and safety. Raw eggs can be kept in the refrigerator for 4-5 weeks after purchase. Refrigerated hard-boiled eggs should be eaten within 7 days.

Why do hard-boiled eggs spoil faster than raw eggs?

- A hen puts a protective coating (called the bloom) on the egg as she lays it. The bloom keeps contaminants from entering pores in the shell (eggshells have up to 17,000 pores). Processing plants wash the eggs and coat them with mineral oil to replace the bloom. This protective coating is removed when you wash or boil the egg.

What's in the yolk?

- --all of the egg's fat, cholesterol and almost half of the protein
- --all of the egg's Vitamins A, D, and E and zinc
- --most of the egg's phosphorus, manganese, iron, copper, iodine and calcium
- --about 60 calories (in a large egg)

What's in the white (albumen)?

- about 2/3 of the egg's liquid weight
- most of the egg's protein, niacin, riboflavin, magnesium, potassium, sodium and sulfur
- chalazae--the strands of egg white that anchor the yolk in place. Prominent chalazae indicate a fresher egg.

Can I use cracked eggs?

- The shell is the egg's first defense against contamination. Do not buy or eat eggs with cracked shells. If you crack the shell, either prepare the egg or break it into a clean container and refrigerate it. Use within 2 days.

What about all the different colors?

--**RED**--Blood spots in the yolk are caused when a blood vessel breaks on the surface of the yolk. Blood spots indicate a fresh egg (the spots fade with time) and are safe to eat.

--**GREEN**--The greenish ring around a hard-boiled egg yolk is due to an iron and sulfur compound that forms when eggs are overcooked, not cooled quickly, or are prepared with water that is high in iron. Concentric green rings inside a cooked yolk are probably formed because the hen's feed or water contained iron. In both cases, the green color is harmless and safe to eat.

--**EGG SHELLS**(brown or white)--Shell color is determined by the hen's breed. Hens with red feathers and red ear lobes have brown eggs; hens with white feathers and white ear lobes have white eggs.

--**EGG WHITE**--A cloudy white in a raw egg is caused by carbon dioxide and indicates freshness. As the egg ages, the carbon dioxide escapes through the pores of the egg, and the

white will become less cloudy. A pinkish or greenish-blue raw egg white possibly indicates spoilage with a certain bacteria (*Pseudomonas* spp). We recommend not eating these eggs. --**YOLK**--Yolk color depends on the diet of the hen. The more yellow-orange plant pigments (xanthophylls) she's eaten, the darker yellow the yolk.

What about *Salmonella*?

Salmonella bacteria are commonly found in animals, especially birds and reptiles. Eggs can have *Salmonella* both inside the egg (usually in the yolk) and on the outside of the shell. In humans, *Salmonella* can cause illness (salmonellosis) within 12-72 hours after eating the contaminated food (or trace amounts of feces of the infected animals).

Symptoms of salmonellosis include:

- ☛ headache, chills, fever (up to 105°F)
- ☛ stomach cramps
- ☛ diarrhea (sometimes bloody), vomiting

Severity of illness depends on the person's health and the number of bacteria ingested. Salmonellosis usually goes away within 7 days, but a small number of severe cases may cause lasting injury (including joint pain and arthritis) or death. If you have symptoms, see a doctor.

No one should eat undercooked eggs, but there are people more likely to get sick. These people include:

- children,
- pregnant women,
- senior citizens, and
- people on certain antibiotics, with compromised immune systems or with chronic illnesses.

Recipes With Undercooked Eggs

These foods are commonly or traditionally prepared with raw or undercooked eggs.

- **Caesar salad--with raw egg dressing
- **Hollandaise sauce
- **Homemade mayonnaise, ice cream, egg nog,
- **Tira misu
- **Eggs served sunnyside up or scrambled
- **French toast
- **Cake and cookie batter

To reduce the risk of illness, prepare these dishes with pasteurized eggs (eggs in the shell can be pasteurized--but they're not available in all parts of the country), pasteurized egg products, or heat the egg mixtures to 160°F before eating.

To prevent salmonellosis:

1. Cook all egg products thoroughly (to 160°F);
2. Wash hands and utensils after handling raw eggs (and other raw animal products);
3. Wash hands after caring for, or petting, animals;
4. Eat foods (including milk) that are prepared from thoroughly-cooked eggs or are pasteurized.

Easter Egg Tips

At all times: Work with the eggs carefully to prevent cracking the shells. (If the shells crack, bacteria can get inside the eggs--they should not be decorated, hidden or eaten.)

Dyeing eggs: Refrigerate before dyeing. If the eggs will be eaten, be sure to use a food-safe dye. Boiling the eggs kills the *Salmonella* bacteria that can cause illness, but will not keep the eggs from spoiling. To prevent re-contamination and to slow spoilage, keep the eggs refrigerated, dry and in a clean container (don't put them back in the original egg carton).

Hiding eggs: Eggs must be protected from sources of contamination (like dirt, pets, and water) and from heat (like sunny spots). A safer option would be to keep edible eggs refrigerated and hide inedible, plastic eggs for the hunt.

Where can I get more information?

- ❑ Benton-Franklin Health District, Environmental Health Division
800 W. Canal Dr.
Kennewick, WA 99336
(509) 582-7761 x246
www.bfhd.wa.gov

Information from Washington State Department of Health

- ❑ Salmonellosis
<http://www.doh.wa.gov/Topics/salmonel.htm>

Egg Information

- ❑ United States Department of Agriculture
www.usda.gov
www.fsis.usda.gov/OA/pubs/shelleggs.htm
- ❑ Washington State Department of Agriculture
www.wa.gov/agr
<http://www.wa.gov/agr/FoodAnimal/Eggs/default.htm>
- ❑ United States Food and Drug Administration
www.fda.gov
www.foodsafety.gov
- ❑ American Egg Board
www.aeb.org